WHAT IS CLAIMED:

1. A cyclodextrin ether comprising at least one 2-hydroxybutenyl substituent, wherein the at least one hydroxybutenyl substituent is sulfonated.

2. A cyclodextrin ether comprising at least one 2-hydroxybutenyl substituent, wherein the at least one hydroxybutenyl substituent is both sulfonated and sulfinated.

3. A cyclodextrin ether comprising at least one 2-hydroxybutenyl substituent, wherein the at least one hydroxybutenyl substituent is disulfonated.

4. A cyclodextrin ether comprising at least one R substituent and at least one 2-hydroxybutenyl substituent, wherein R is derived from an O-alkylating agent other than 3,4-epoxy-1-butene and wherein the at least one hydroxybutenyl substituent is sulfonated.

5. A cyclodextrin ether comprising at least one R substituent and at least one 2-hydroxybutenyl substituen, wherein R is derived from an O-alkylating agent other than 3,4-epoxy-1-butene and wherein the at least one hydroxybutenyl substituent is both sulfonated and sulfinated.

6. A cyclodextrin ether comprising at least one R substituent and at least one 2-hydroxybutenyl substituent, wherein R is derived from an O-alkylating agent

other than 3,4-epoxy-1-butene and wherein the at least one hydroxybutenyl substituent is disulfonated.

7. A water-soluble or water dispersible cyclodextrin ether host molecule comprising at least one 2-hydroxybutenyl substituent, wherein the at least one hydroxybutenyl substituent is sulfonated, sulfonated and sulfinated, or disulfonated and wherein the cyclodextrin ether host molecule is characterized as having an initial total DS of hydroxybutenyl from about 0.02 to about 9.0 and being capable of forming host-guest complexes.

8. A water-soluble or water dispersible cyclodextrin ether host molecule comprising at least one R substituent and at least one 2-hydroxybutenyl substituent, wherein R is derived from an O-alkylating agent other than 3,4-epoxy-1-butene, wherein the at least one hydroxybutenyl substituent is sulfonated, sulfonated and sulfinated, or disulfonated and wherein the cyclodextrin host molecule is characterized as having an initial total DS of hydroxybutenyl from about 0.02 to about 9.0 and being capable of forming host-guest complexes.

9. A process for making a cyclodextrin ether comprising at least one 2-hydroxybutenyl substituent, wherein the least one hydroxybutenyl substituent is sulfonated, sulfonated and sulfinated, or disulfonated.

10. A process for making a cyclodextrin ether comprising at least one R substituent and at least one 2-hydroxybutenyl substituent, wherein R is derived from an O-alkylating agent other than 3,4-epoxy-1-butene and wherein the least one hydroxybutenyl substituent is sulfonated, sulfonated and sulfinated, or disulfonated.

11. A process for making a sulfonated, sulfonated and sulfinated, or disulfonated cyclodextrin ether, wherein the cyclodextrin ether comprises at least one 2-hydroxybutenyl substituent.

12. A process for making a sulfonated, sulfonated and sulfinated, or disulfonated cyclodextrin ether from a cyclodextrin ether, wherein the cyclodextrin ether comprises at least one R substituent and at least one 2-hydroxybutenyl substituent, wherein R is derived from an O-alkylating agent other than 3,4-epoxy-1-butene.

13. An inclusion complex comprising a water-soluble or water dispersible cyclodextrin ether host molecule and an included material, wherein the cyclodextrin ether comprises at least one 2-hydroxybutenyl substituent, wherein the at least one hydroxybutenyl substituent is sulfonated, sulfonated and sulfinated, or disulfonated, and wherein the cyclodextrin ether host molecule is characterized as having an initial total DS of hydroxybutenyl from about 0.02 to about 9.0.

14. An inclusion complex comprising a water-soluble or water dispersible cyclodextrin ether host molecule and an included material, wherein the cyclodextrin ether host molecule comprises at least one R substituent and at least one 2-hydroxybutenyl substituent, wherein R is derived from an O-alkylating agent other than 3,4-epoxy-1-butene, wherein the least one hydroxybutenyl substituent is sulfonated, sulfonated and sulfinated, or disulfonated and wherein the cyclodextrin ether host molecule is characterized as having an initial total DS of hydroxybutenyl from about 0.02 to about 9.0.

15. A composition comprising sodium 3,4-dihydroxybutane-1-sulfonate.

16. A composition comprising a mixture of sodium 3,4-dihydroxybutane-1-sulfonate and at least about 5 mol% of disodium 3,4-dihydroxybutane-1-sulfonate-2-sulfinate.

17. A composition comprising disodium 3,4-dihydroxybutane-1,2-sulfonate.

18. A composition comprising a mixture of sulfonated 3,4-dihydroxybutane, 1,4-dihydroxybutane and sulfonated oligomers of 3,4-epoxy-1-butene.

19. A monomer comprising a sulfonated, sulfonated and sulfinated, or disulfonated 3,4-dihydroxybutane, wherein the monomer is suitable for

polycondensation, thereby providing sulfonate-containing polyesters.

20. A polysaccharide ether comprising at least one 2-hydroxybutenyl substituent, wherein the at least one hydroxybutenyl substituent is sulfonated and sulfinated, or disulfonated.

21. An alkylpolyglycoside ether comprising at least one 2-hydroxybutenyl substituent, wherein the at least one hydroxybutenyl substituent is sulfonated and sulfinated, or disulfonated.

22. The use of a sulfonated, sulfonated and sulfinated, or disulfonated cyclodextrin ether which comprises at least one 2-hydroxybutenyl substituent and, optionally, at least one R substituent, wherein R is derived an O-alkylating agent other than 3,4-epoxy-1-butene, and wherein the cyclodextrin ether is suitable for use as a chiral discriminator in analytical or preparative chromatography.